

## REMARKS

This amendment is intended as a full and complete response to the Action mailed September 8, 2003. In the Action, the Examiner notes that claims 1-25 are pending, of which claims 1-25 stand rejected. By this amendment, claims 1, 2, 14, 15, 17, 19, 20, and 22 are amended, and claims 3-13, 16, 18, 21, and 23-25 continue unamended.

The Applicants thank the Examiner for interviewing with their attorney, Steven Hertzberg, on November 25, 2003 regarding this response. The interview was extremely helpful for clarifying the Examiner's reasons for citing the references in view of the Applicant's invention.

In view of both the amendments presented above and the following discussion, the applicants submit that none of the claims now pending in the application are non-enabling, anticipated, or obvious under the respective provisions of 35 U.S.C. §112, §102, and §103. Thus, the applicants believe that all of the pending claims are now in allowable form.

It is to be understood that the applicants, by amending the claims, do not acquiesce to the Examiner's characterizations of the art of record or to applicants' subject matter recited in the pending claims. Further, applicants are not acquiescing to the Examiner's statements as to the applicability of the prior art of record to the pending claims by filing the instant responsive amendments.

### A. IN THE DRAWINGS:

The Applicants have amended FIG. 3 to conform the drawing to the specification. In particular, the Applicants have amended FIG. 3 to include the reference designation --320<sub>y</sub>--, which is fully disclosed in the specification (Specification page 8, line 11) but missing from the drawing. Applicant has enclosed the corrected replacement drawing herewith this response to this Office Action, and the applicant submits that such added reference designation to FIG. 3 does not add any new subject matter.

B. IN THE SPECIFICATION:

The Applicant has amended the specification to provide minor grammatical corrections and change reference designations to conform to the reference designations in the drawings. Such grammatical corrections and/or reference designation changes do not add any new subject matter to the application.

**REJECTIONS**

**REJECTION OF CLAIMS UNDER 35 U.S.C. §112**

A. Claims 14 and 19

The Examiner has rejected claims 14 and 19 under 35 U.S.C. 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which application regards as the invention. The Applicants respectfully traverse the rejection.

1. Claim 14

The Applicants have amended claim 14 to further clarify the features that the Applicants consider as being inventive. In particular, amended claim 14 recites:

“The apparatus of claim 12 wherein said primary switch controller sends periodic polling messages to said plurality of control registers to monitor an out-of-band signal path of said primary switch controller, said out-of-band signal path for transferring control information; said plurality of control registers set a second portion of said plurality of timers upon receiving said periodic polling messages; said plurality of control registers set an error bit at said plurality of status registers in an instance where said second portion of said plurality of timers elapse prior to a next polling message; said secondary switch controller monitors said error bits set in said plurality of status registers; and said secondary switch controller switches over to serve as said primary switch controller in an instance where a plurality of said error bits are detected.” (emphasis added).

The Applicants have amended claim 14 to clarify that the out-of-band-signal path is used for transferring control information. Support for such clarification may be found in the specification, where “FIG. 3 further depicts the pair of out-of-band signal paths OOB A 317<sub>A</sub> and OOB B 317<sub>B</sub> (collectively OOB signal paths 317). The OOB signal paths 317 are used for transferring out-of-

band control information, such as switch routing information, health status, I/O port activity, and/or otherwise between the switch controllers 310 and I/O ports 320." (see Specification, page 15, lines 1-5).

As such, the Applicants submit that claim 14 is not indefinite and fully satisfies the requirements under 35 U.S.C. §112 and is patentable thereunder. Therefore, the applicants respectfully request that the rejection be withdrawn.

## 2. Claim 19

The Applicants have amended claim 19 to further clarify the features that the Applicants consider as being inventive. In particular, amended claim 19 recites:

"The method of claim 18, comprising the step of:

asserting said ONLINE signal by one of said plurality of switch controllers in a default mode of operation, wherein said asserting switch controller serves as an acting primary switch controller." (emphasis added).

The Applicants have amended claim 19 to clarify that one of the switch controllers will act as a primary switch controller when another switch controller that was either serving as, or by default set as, the primary switch controller fails. Support for such clarification may be found in the specification, where "[o]nce the switch controller SWC-A has become operational and asserted its respective ONLINE\_A signal in step 510, the SWC-A switch controller is available as the primary switch controller for routing data packets, and the method 500 proceeds to step 516" and "in step 512, if the SWC-A switch controller does not assert the SWC\_A\_READY signal before the watchdog timer of the SWC-B switch controller times out, then the SWC-A switch controller is deemed non-operational. The method 500 then proceeds to step 514. In step 514, the SWC-B switch controller asserts the ONLINE\_B signal and the method 500 proceeds to step 524, where the method 500 ends. Thereafter, the SWC-B switch controller assumes the role of the primary switch controller for routing packets of in-band data, and the SWC-A switch controller will require corrective action by the system administrator." (see Specification, page 20, lines 18-30, page 22, lines 8-15, and FIGS. 3 and 5).

As such, the Applicants submit that claim 19 is not indefinite and fully satisfies the requirements under 35 U.S.C. §112 and is patentable thereunder. Therefore, the applicants respectfully request that the rejection be withdrawn.

REJECTION OF CLAIMS UNDER 35 U.S.C. §103(a)

A. Claims 1-3 and 8-10

The Examiner rejected claims 1-3 and 8-10 under 35 U.S.C. §103 as being obvious and unpatentable over Edmonds et al (U.S. Patent No. 6,412,079, issued June 25, 2002, hereinafter "Edmonds") in view of the Examiner's Official Notice that "it is well known and expected in the art to send video data across a network." The rejection is respectfully traversed.

The Applicants have amended claim 1 to further clarify the features the Applicants consider as being inventive. In particular, amended claim 1 recites:

"In a video distribution system having provider equipment including a head-end, and associated subscriber equipment, an apparatus for improving fault tolerance, comprising:

a server comprising a plurality of server modules;  
a video switch coupled to each of said server modules at said head-end; and

at least one head-end controller, each head-end controller coupled to each server module of said plurality of server modules via at least two signal paths, wherein each communication between a head-end controller and a server module at said head-end is coincidentally sent through the at least two signal paths." (emphasis added).

The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 U.S.P.Q. 1021, 1024 (Fed. Cir. 1984) (emphasis added). Thus, it is impermissible to focus either on the "gist" or "core" of the invention, Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 230 U.S.P.Q. 416, 420 (Fed. Cir. 1986) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 U.S.P.Q. 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added). The mere fact that a prior art structure could be modified to produce the claimed invention would not have made the modification

obvious unless the prior art suggested the desirability of the modification. In re Fritch, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992); In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984).

In particular, Edmonds discloses "in FIG. 5, another computer system is shown. A plurality of computers 200 and 202 communicate over a dual bus with a first bus 204 and a second bus 206. Additionally, a first Ethernet switch 210 is connected to the first bus 204. The Ethernet switch 210 may be the Cisco 2900 switch. The Ethernet switch 210 in turn is connected to an Internet pool of Web servers 214. Servers 214 support Web content retrieval, email, database management, and system management. The Ethernet switch 210 is also connected to a first director 216 as well as a second director 220. The first director 216 in turn communicates with an Internet router 222. The Internet router 222 is also connected to a hub 226 and to the Internet 160." (See Edmonds, col.7, lines 23-35). Nowhere in the Edmonds reference is there any teaching or suggestion of "each communication between a head-end controller and a server module at said head-end is coincidentally sent through the at least two signal paths."

The applicants' invention provides "that an active "primary" head-end controller sends two messages having the same information to the particular server module containing the video information requested by a subscriber. The head-end controller identifies each message with a tag, which is continually incremented every time a new message is transmitted. In this manner, the head-end controller may track each message and response. In step 204, each message is routed through a different Ethernet switch via a different signal path. Thus, both messages are sent to the same destination, i.e., server module, but through alternate, redundant signal paths." (See applicants' specification, page 6, line 26 to page 7, line 2, and FIGS. 1a and 1b).

By contrast, the Edmonds' reference merely discloses a computer system that executes an independent operating system image without sharing file system state information by each processor in a group of interdependent processor, each interdependent processor having a network access card with a first network connection and a second network connection and transferring data on either a first active backplane coupled to each first network connection of

each processor or a second active backplane coupled to each second network connection of each processor. The second active backplane operates in lieu of the first active backplane in case of a fail over. (See Edmonds, col. 2, lines 1-13 and 28-41).

Moreover, the Examiner's Official Notice fails to bridge the substantial gap as between the Edmonds' reference and the applicants' invention. The Examiner's Official Notice merely provides that the video data may be sent across a network. However, nowhere in the Edmonds' reference or the Examiner's official notice, either singularly or in combination, is there any teaching or suggestion of "each communication between a head-end controller and a server module at said head-end is coincidentally sent through at least two signal paths." Therefore, the combined references fail to teach or suggest the applicants' invention as a whole.

As such, the applicants submit that independent claim 1 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Furthermore, claims 2-3 and 8-10 depend from independent claim 1 and recite additional features thereof. As such and for at least the same reasons discussed above, the Applicants submit that these dependent claims are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the applicants respectfully request that the rejections be withdrawn.

B. Claims 4-7

The Examiner has rejected claims 4-7 under 35 U.S.C. 103(a) as being unpatentable over Edmonds in further view of Fujisaki et al U.S. Patent No. 6,466,574 (hereinafter Fujisaki). The applicants respectfully traverse the rejection.

Claims 4-7 depend from independent claim 1 and recite additional features thereof. In particular, claims 4-7 recite in part:

"In a video distribution system having provider equipment including a head-end, and associated subscriber equipment, an apparatus for improving fault tolerance, comprising:

a server comprising a plurality of server modules;

a video switch coupled to each of said server modules at said head-end; and

at least one head-end controller, each head-end controller coupled to each server module of said plurality of server modules via at least two signal paths, wherein each communication between a head-end controller and a server module at said head-end is coincidentally sent through the at least two signal paths." (emphasis added).

As discussed above, Edmonds discloses transferring data on either first active backplane coupled to each first network connection of each processor or a second active backplane coupled to each second network connection of each processor, the second active backplane operating in lieu of the first active backplane in case of a fail-over. (See Edmonds, col. 2, lines 33-38). Therefore, the Edmonds reference fails to teach or suggest the applicants' invention as a whole. Furthermore, the Fujisaki reference fails to bridge a substantial gap between the Edmonds reference and the applicants' invention. In particular, the Fujisaki reference discloses improved reliability and reduced delays in packet losses of Internet media transmissions over packet switching networks such as Internet and Intranet is achieved by replicating a sent or message/information packet(s) from one or more source computers connected to the network into two or replicas of one or more of the sent message. (See Fujisaki Abstract). Nowhere in the Fujisaki reference is there any teaching or suggestion that communications between a head-end controller and a server module at the head-end is sent coincidently through at least two signal paths.

Even if the two references could somehow be operably combined, and the applicants' submit that the two reference may not operably combined, since the Fujisaki reference is a packet switching network and the Edmonds reference is a computer network coupled to a POTS network, the combined references would merely disclose sending replicated data from a source computer to a destination computer over separate paths of a packet switching network. Nowhere in the combined references is there any teaching or suggestion of "at least one head-end controller, each head-end controller coupled to each server module of said plurality of server modules via at least two signal paths, wherein each communication between a head-end controller and a server module at said head-end is coincidentally sent through the at least two signal paths." The applicants'

point out that the redundant paths and coincidental communications claimed by the applicants' occurs between provider equipment at a head-end, illustratively, of a cable television network. Nowhere in either the Edmonds or the Fujisaki reference is there any teaching or suggestion that the replicating of data across a packet switching network is operable at a head-end of a video distribution system. The mere fact that a prior art structure could be modified to produce the claimed invention would not have made the modification obvious unless the prior art suggests the desirability of the modification. Therefore, the combination of Edmonds and Fujisaki fails to teach or suggest the applicants' invention as a whole.

As such, the applicants submit that dependent claims 4-7 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the applicants respectfully request that the rejections be withdrawn.

C. Claims 11 and 20-25

The Examiner has rejected claims 11 and 20-25 under 35 U.S.C. 103(a) as being unpatentable over Edmonds in further view of Deitz et al U.S. Patent No. 6,578,158 (hereinafter Deitz). The applicants respectfully traverse the rejection.

With respect to claim 11, the Examiner has taken Official Notice that "... it is well known and expected in the art to use a switch matrix for routing signals. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edmonds with a switch matrix so that his system would use industry known techniques helping the compatibility of the system." The applicants respectfully disagree.

1. Claim 11

Claim 11 depends indirectly from claim 1 and recites additional features thereof. In particular, claim 11 recites in part:

"In a video distribution system having provider equipment including a head-end, and associated subscriber equipment, an apparatus for improving fault tolerance, comprising:

a server comprising a plurality of server modules;

a video switch coupled to each of said server modules at said head-end; and

at least one head-end controller, each head-end controller coupled to each server module of said plurality of server modules via at least two signal paths, wherein each communication between a head-end controller and a server module at said head-end is coincidentally sent through the at least two signal paths." (emphasis added).

As discussed above, Edmonds merely discloses "transferring data on either a first active backplane coupled to each first network connection of each processor or a second active backplane coupled to each second network connection of each processor or a second active backplane coupled to each second network connection of each processor, the second active backplane operating in lieu of the first active backplane in case of a fail-over. (See Edmonds, col. 2, lines 34-38). However, the Edmonds reference fails to teach or suggest a timer for periodically querying the operational status of the primary and secondary switch controllers, as well as each communication between a head-end controller and a server module at the head-end coincidentally sending such communications to at least two signal paths. Therefore, the Edmonds reference fails to teach or suggest the applicants' invention as a whole.

Furthermore, the Deitz reference fails to bridge a substantial gap as between the Edmonds reference, the Examiner's official notice with respect to a switch matrix for routing signals, and the applicants' invention. In particular, the Deitz reference discloses the performing a fault detection operation in which the controllers exchange a series of "pings", also referred to as heart-beat signals, the response of which indicates to each controller that the other has not failed. A detection of a controller failure, a fail-over procedure is performed on the surviving controller, where the fail-over procedure involves the steps of disabling the fail controller and assuming the identity of the failed controller. (See Deitz, col. 7, lines 30-50).

Even if the two references could somehow be operably combined, the combined references would merely disclose transferring data on either a first active backplane coupled to each first network connection of each first processor or a second active backplane coupled to each second network connection of each processor, the second active backplane operating in lieu of the first active

backplane in case of a fail-over and exchanging a series of pings between the controllers to determine a fail-over condition. Nowhere in the combined references is there any teaching or suggestion of each communication between a head-end controller and a server module at said head-end is coincidentally sent through the at least two signal paths. Therefore, the combined references fail to teach or suggest the applicants' invention as a whole.

## 2. Claims 20-25

The Applicants have amended independent claim 20 to further clarify the features that the Applicants consider as being inventive. In particular, amended independent claim 20 recites:

“In a video distribution system having provider equipment including a head-end, and associated subscriber equipment, a method of improving fault tolerance at a video switch, said method comprising the steps of:

sending a periodic pinging command to a control register at an I/O port via a primary switch controller of said video switch at said head-end for testing a switch matrix of a primary switch controller;

setting a timer of said I/O port via said control register upon receiving said periodic pinging command;

setting an acknowledgement bit in a status register of said I/O port via said switch matrix of said primary switch controller;

monitoring status of a status register in said I/O port via a secondary switch controller; and

resetting said timer via said control register in an instance where said timer of said I/O port elapses before said switch matrix of said primary switch controller sets said acknowledgement bit in said status register.”  
(emphasis added).

The Applicants submit that independent claim 20 is not taught or suggested as a whole for the same reasons discussed above with respect to claim 11. Specifically, the combined references fail to teach or suggest “sending a periodic pinging command to a control register at an I/O port via a primary switch controller of said video switch at said head-end for testing a switch matrix of a primary switch controller.”

Moreover, the combined references fail to teach or suggest the “a switch matrix of a primary switch controller.” That is, the combined references fail to teach the specific order of steps recited in claim 20 to test the switch matrix of the primary switch controller. In particular, the Applicants' invention sends a periodic

pinging command to a control register at an I/O port; sets a timer of the I/O port via the control register; sets an acknowledgement bit in a status register of the I/O port via the switch matrix; monitors status of a status register in the I/O port via a secondary switch controller; and resets the timer via the control register in an instance where the timer of the I/O port elapses before the switch matrix of the primary switch controller sets the acknowledgement bit in the status register.

The Edmonds reference merely discloses "transferring data on either a first active backplane coupled to each first network connection of each processor or second active backplane coupled to each second network connection of each processor, the second active backplane operating in lieu of the first active backplane in case of a fail-over." (See Edmonds', col. 2, lines 34-38).

Furthermore, the Deitz reference fails to bridge a substantial gap as between the Edmonds reference and the applicants' invention. In particular, the Deitz reference merely discloses that during normal operation, a fault detection step is executed in which the controller exchange a series of pings, the response to which signals to each controller that the other has not failed. (See Dietz, col. 7, lines 30-50). However, nowhere in the combined references is there any teaching or suggestion that it is the switch matrix of the video switch at the head-end that is being tested for failure.

As described in the specification of applicants' invention, the video switch comprises numerous components such as a plurality of I/O ports and a redundant switch controllers. The applicants recite various claim sets to claim full protection for providing fault tolerance for both the switch matrices and the I/O ports as recited in independent claims 20 and 22. Nowhere in the combined references is there any teaching or suggestion of providing fault tolerance for the switch matrix of the primary switch controller, as defined in claim 11. In fact, the Deitz reference is completely silent with respect to a switch matrix of the switch controller. Therefore, the combined references fail to teach or suggest the applicants' invention as a whole.

As such, the Applicants submit that dependent claim 11 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Furthermore, the Applicants submit that independent claim 20 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder.

Moreover, claims 21-25 depend from independent claim 20 and recite additional features thereof. As such and for at least the same reasons discussed above, the Applicants submit that these dependent claims are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the applicants respectfully request that the rejections be withdrawn.

**D. Claims 12-14**

The Examiner has rejected claims 12-14 under 35 U.S.C. 103(a) as being unpatentable over Edmonds in further view of Deitz et al U.S. Patent No. 6,578,158 (hereinafter Deitz) and Miyamoto et al. U.S. Patent No. 5,845,061 (hereinafter Miyamoto). The applicants respectfully traverse the rejection.

Claims 12-14 depend indirectly from independent claim 1 and recite additional features thereof. As discussed above, neither the Edmonds' nor Deitz' references either singularly or in combination teach or suggest the applicants' invention as a whole. In particular, the combination of Edmonds and Deitz merely discloses "transferring data on either a first active backplane coupled to each first network connection of each processor or a second active backplane coupled to each second network connection of each processor, the second active backplane operating in lieu of the first active backplane in case of a fail-over, and exchanging a series of pings between controllers to indicate to each controller that the other has not failed. Nowhere in the combined references is there any teaching or suggestion of "each communication between a head-end controller and a server module at the head-end is coincidentally sent through the at least two signal paths." Therefore, the combined references fail to teach or suggest the applicants' invention as a whole.

As such, the applicants submit that claims 12-14 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the applicants respectfully request that the rejections be withdrawn.

**E. Claims 15 and 16**

The Examiner rejected claims 15 and 16 under 35 U.S.C. §103(a) as being unpatentable over Fujisaki. The rejection is respectfully traversed.

The applicants' have amended independent claim 15 to further clarify the features that the applicant considers as being inventive. In particular, amended claim 15 recites:

"In a video distribution system having provider equipment including a head-end, and associated subscriber equipment, a method for improving fault tolerance, comprising the steps of:

transmitting, at said head-end, a plurality of messages having duplicate content from a primary head-end controller to at least one server module;

routing said plurality of messages via alternate signal paths;

accepting one of said plurality of messages that arrives at said at least one server module first;

disregarding said plurality of messages that arrives at said at least one server module thereafter; and

transmitting a plurality of acknowledgements to said primary head-end controller having sent said plurality of messages." (emphasis added)

As discussed above, the Fujisaki reference merely discloses proven reliability and reduced delays and packet losses of Internet media transmissions over packet switching networks such as the Internet and Intranet is achieved by replicating a sent message/information packets from one or more source computers connected to the network into two or more replicas of one or more of the packets of the sent message. Each of the replicas is then directed through a different route to the network to one or more destination computers." (See Fujisaki, Abstract).

Nowhere in the Fujisaki reference is there any teaching or suggestion that the plurality of messages having duplicate content may be transmitted from a primary head-end controller to at least one serve module at the head-end. That is, the Fujisaki reference operates in a packet switching network, as opposed to the applicants' invention which provides video information in a video distribution system at a head-end, such as a cable television head-end. One skilled in the art will appreciate that provider equipment at a head-end operates differently from a packet switching network. The Fujisaki reference fails to teach or suggest that a head-end is capable or desirable to transmit a plurality of messages having duplicate content from a primary head-end controller to at least

one server module. Therefore, the Fujisaki reference fails to teach or suggest the applicants' invention as a whole.

As such, the applicants submit that claim 15 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Furthermore, claim 16 depends from claim 15 and recites additional features thereof. As such and for at least the same reasons discussed above, the Applicants submit that claims 16 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder.

F. Claims 17-19

The Examiner has rejected claims 17-19 under 35 U.S.C. 103(a) as being unpatentable over Edmonds in further view of Miyamoto. The applicants respectfully traverse the rejection.

The applicants have amended independent claim 17 to further clarify the features that the applicants consider as being inventive. In particular, amended claim 17 recites:

"In a video distribution system having provider equipment including a head-end, and associated subscriber equipment, a method of improving fault tolerance at a video switch, said method comprising the steps of:

asserting a switch controller READY signal at each of a plurality of switch controllers of said video switch at said head-end;

performing self-diagnostic tests and asserting a switch controller OK signal upon passing said self-diagnostic tests at each of said switch controllers;

indicating primary switch controller functionality by asserting a respective ONLINE signal by one of said plurality of switch controllers;

indicating secondary switch controller functionality by de-asserting a respective switch controller ONLINE signal;

monitoring said switch status via a secondary switch controller; and initiating a switchover event in an instance where said

primary switch controller is determined to be inoperable.."

(emphasis added).

As discussed above, the Edmonds references merely discloses "transferring data on either a first active backplane coupled to each first network connection of each processor or second active backplane coupled to each second network connection of each processor, the second active backplane

operating in lieu of the first active backplane in case of a fail-over.” (See Edmonds, col. 2, lines 34-38).

Furthermore, the Miyamoto reference fails to bridge a substantial gap as between the Edmonds’ reference and the applicants’ invention. In particular, Miyamoto merely discloses “alternation control of the server processing by conducting transfer processing of the “request” to the server of auxiliary system in the case where server processing relating to the accepted “request” is impossible.

Furthermore, the transfer processing of the “request” is conducted in the case where any fault has occurred in the server processor in the server of execution system which has accepted a “request” or in the case where the server of execution system having a fault therein has accepted a new “request.”

Furthermore, the process administrator includes a state administration table for registering the state of the disk processor and a fault monitor for monitoring occurrence of a fault in the disk processor and for updating registration of the state administration table. And the transfer processing of the “request” is conducted in accordance with registration contents of the state administration table.” (See Miyamoto, col. 5, lines 5-21)

Nowhere in any reference is there any teaching or suggesting of providing at least two switch controllers in a video switch at the head-end. In particular, the applicants’ invention provides fault tolerance in a video switch by providing two switch controllers. Although the Miyamoto reference discloses fault tolerance between two servers where in the case of one server processing request fails, a second server continues to process such request. Neither the Edmonds’ nor Miyamoto’ reference teach or suggest that a plurality of switch controllers may be used in a video switch associated with service provider equipment at the head-end. Therefore, the combined references fail to teach or suggest the applicants’ invention as a whole.

As such, the Applicants submit that independent claim 17 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Moreover, claims 18-19 depend from independent claim 20 and recite additional features thereof. As such and for at least the same reasons discussed above, the Applicants submit that these dependent claims are not

obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the applicants respectfully request that the rejections be withdrawn.

**PRIOR ART MADE OF RECORD BUT NOT RELIED UPON**

The references cited and not relied upon have been studied, and it is submitted that their disclosures are not sufficiently pertinent to the claimed invention to warrant a detailed statement of the manner in which the present claims distinguish patentably over such references.



### CONCLUSION

Thus, the applicants submit that the pending claims are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Steven M. Hertzberg, Esq. or Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

12/8/03

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